45-DAY EXPRESS TERMS FOR PROPOSED BUILDING STANDARDS

PROPOSED BUILDING STANDARDS OF THE

DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT REGARDING THE AMENDMENT OF THE 2016 CALIFORNIA PLUMBING CODE CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 5

(HCD 02/16)

The Department of Housing and Community Development (HCD) proposes to make necessary changes to be included into the 2016 edition of the California Plumbing Code (CPC) as presented on the following pages, including any necessary amendments.

LEGEND FOR EXPRESS TERMS:

- 1. UPC language with new California amendments: UPC language shown in normal Arial 9 point; California amendments to UPC text shown <u>underlined and in italics</u> with vertical bar in left margin.
- 2. Existing California amendments being modified: All such existing language shown in *italics*, modified language is *underlined* or shown in *strikeout* with vertical bar in left margin.
- 3. Existing California amendments with no modification: All such existing language shown in *italics*, modified model code language is shown in strikeout.
- 4. Text not being modified: All language not displayed in full is shown as "..." (i.e., ellipsis).
- **5.** Repealed text: All language shown in strikeout with vertical bar in left margin.
 - **6. Notation:** Authority and Reference citations are provided at the end of each action.

1. HCD proposes to amend Chapter 2 as follows:

CHAPTER 2 DEFINITIONS

205.0

Construction Site. A parcel of land bounded by lot line(s) or a designated portion of a public right-of-way where construction is taking place. A construction site may include, but not be limited to, buildings and accessory structures, walks, sidewalks, curbs, curb ramps, parking facilities, planting areas, pools, promenades, exterior gathering or assembly areas, raised or depressed paved areas, open spaces, golf courses, landscape areas.

206.0

<u>Disinfected Tertiary Recycled Water</u>. Filtered and subsequently disinfected wastewater that meets the approved method of treatment and minimum level of water quality specified in California Code of Regulations, Title 22, Division 4, Chapter 3 for the purpose of direct beneficial use.

220.0

Reclaimed (Recycled) Water. (HCD 1) Nonpotable water that meets California Department of Public Health State Water Resources Control Board statewide uniform criteria for disinfected tertiary recycled water. Reclaimed (recycled) water is also known as "recycled water" or "reclaimed water".

Recycled Water Supply System. The building supply pipe, the water distribution pipes, and the necessary connecting pipes, fittings, control valves, backflow prevention devices, and all appurtenances carrying or supplying reclaimed (recycled) water in or adjacent to the building or within the premises.

223.0

Urinal, Hybrid. A urinal that conveys waste into the drainage system without the use of water for flushing and automatically performs a drain-cleansing action after a predetermined amount of time.

NOTE:

Authority Cited: Health and Safety Code Sections 17040, 17050, 17921, 17921.5, 17921.10, 17922, 17922.6, 17922.12, 17927, 17928, 17959.6, 18300, 18552, 18554, 18620, 18630, 18640, 18670, 18690, 18691, 18865, 18871.3, 18873.4, 18873.1, 18873.2, 18873.3, 18873.4, 18873.5, 18938.3, 18944.11, and 19990; and Government Code Section 12955.1, and Water Code Section 14877.3, 13552.2, 13552.4, 13553.

Reference: Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

2. HCD proposes to amend Chapter 4 as follows:

CHAPTER 4 PLUMBING FIXTURES AND FIXTURE FITTINGS

407.2.1.1 Kitchen Faucets. (HCD 1) The maximum flow rate of kitchen faucets shall not exceed 1.8 gallons (6.81 L) per minute at 60 psi. Kitchen faucets may temporarily increase the flow above the maximum rate, but not to exceed 2.2 gallons (8.32 L) per minute at 60 psi, and must default to a maximum flow rate of 1.8 gallons (6.81 L) per minute at 60 psi.

Note: Where faucets meeting the maximum flow rate of 1.8 gpm (6.81 L) are unavailable, aerators or other means may be used to achieve reduction.

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408.2 Water Consumption. (HCD 1) Showerheads shall have a maximum flow rate of 2.0 gallons (7.57 L) 1.8 gallons (5.6 L) per minute measured at 80 psi and must comply with Division 4.3 of the California Green Building Standards Code (CALGreen).

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420.2.1 (Formerly 407.2.1.1) Kitchen Faucets. (HCD 1) The maximum flow rate of kitchen faucets shall not exceed 1.8 gallons (6.81 L) per minute at 60 psi. Kitchen faucets may temporarily increase the flow above the maximum rate, but not to exceed 2.2 gallons (8.32 L) per minute at 60 psi, and must default to a maximum flow rate of 1.8 gallons (6.81 L) per minute at 60 psi in compliance with Chapter 4, Division 4.3 or Chapter 5, Division 5.3 of the California Green Building Standards Code (CALGreen), as applicable.

Note: Where faucets meeting the maximum flow rate of 1.8 gpm (6.81 L) are unavailable, aerators or other means may be used to achieve reduction.

NOTE:

Authority Cited: Health and Safety Code Sections 17040, 17050, 17921, 17921.5, 17921.10, 17922, 17922.6, 17922.12, 17927, 17928, 17959.6, 18300, 18552, 18554, 18620, 18630, 18640, 18670, 18690, 18691, 18865, 18871.3, 18873.4, 18873.1, 18873.2, 18873.3, 18873.4, 18873.5, 18938.3, 18944.11, and 19990; and Government Code Section 12955.1, and Water Code Section 14877.3, 13552.2, 13552.4, 13553.

Reference: Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

3. HCD proposes to amend Chapter 6 as follows:

CHAPTER 6 WATER SUPPLY AND DISTRIBUTION

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601.2 Hot and Cold Water Required. Except where not deemed necessary for safety or sanitation by the Authority Having Jurisdiction, each plumbing fixture shall be provided with an adequate supply of potable running water piped thereto in an approved manner, so arranged as to flush and keep it in a clean and sanitary condition without danger of backflow or cross-connection. Water closets and urinals shall be flushed by means of an approved flush tank or flushometer valve.

Exceptions:

- 1. Listed fixtures that do not require water for their operation and are not connected to the water supply.
- 2. (HCD 1 & HCD 2) For limited-density owner-built rural dwellings, potable water shall be available to the dwelling site, although such water need not be pressurized. Where water is not piped from a well, spring, cistern or other source, there shall be a minimum reserve of 50 gallons (189 L) of potable water available. Where water delivery is pressurized, piping shall be installed in accordance with the provisions of this chapter.
- 3. (HCD 1 & HCD 2) Recycled water may be allowed as specified in Chapter 16A Part II, and on-site treated nonpotable gray water as specified in Chapter 15, Section 1504 of this code.

(HCD 1 & HCD 2) For all residential occupancies, alternate water sources may be allowed as specified in Chapter 15 of this code in addition to potable water.

In occupancies where plumbing fixtures are installed for private use, hot water shall be required for bathing, washing, laundry, cooking purposes, dishwashing or maintenance. In occupancies where plumbing fixtures are installed for public use, hot water shall be required for bathing and washing purposes. This requirement shall not supersede the requirements for individual temperature control limitations for public lavatories and public and private bidets, bathtubs, whirlpool bathtubs, and shower control valves.

TABLE 610.3 WATER SUPPLY FIXTURE UNITS (WSFU) AND MINIMUM FIXTURE BRANCH PIPE SIZES³

APPLIANCES, APPURTENANCES OR FIXTURES ²	MINIMUM FIXTURE BRANCH PIPE SIZE ^{1,4} (inches)	PRIVATE	PUBLIC	ASSEMBLY ⁶
<u>Urinal, Hybrid</u>	<u>½</u>	<u>1.0</u>	<u>1.0</u>	<u>1.0</u>

(Portions of Table 610.3 not shown remain unchanged)

NOTE:

Authority Cited: Health and Safety Code Sections 17040, 17050, 17921, 17921.5, 17921.10, 17922, 17922.6, 17922.12, 17927, 17928, 17959.6, 18300, 18552, 18554, 18620, 18630, 18640, 18670, 18690, 18691, 18865, 18871.3, 18873.4, 18873.1, 18873.2, 18873.3, 18873.4, 18873.5, 18938.3, 18944.11, and 19990; and Government Code Section 12955.1, and Water Code Section 14877.3, 13552.2, 13552.4, 13553.

Reference: Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1

4. HCD proposes to amend Chapter 7 as follows:

CHAPTER 7 SANITARY DRAINAGE

TABLE 702.1 DRAINAGE FIXTURE UNIT VALUES (DFU)

PLUMBING APPLIANCES, APPURTENANCES, OR FIXTURES	MINIMUM SIZE TRAP AND TRAP ARM ⁷ (inches)	PRIVATE	PUBLIC	ASSEMBLY ⁸
<u>Urinal, Hybrid</u>	<u>2</u>	<u>1.0</u>	<u>1.0</u>	<u>1.0</u>

(Portions of Table 702.1 not shown remain unchanged)

NOTE:

Authority Cited: Health and Safety Code Sections 17040, 17050, 17921, 17921.5, 17921.10, 17922, 17922.6, 17922.12, 17927, 17928, 17959.6, 18300, 18552, 18554, 18620, 18630, 18640, 18670, 18690, 18691, 18865, 18871.3, 18873.4, 18873, 18873.1, 18873.2, 18873.3, 18873.4, 18873.5, 18938.3, 18944.11, and 19990; and Government Code Section 12955.1, and Water Code Section 14877.3, 13552.2, 13552.4, 13553.

Reference: Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1

5. <u>HCD proposes to amend Chapter 15, Sections 1501, 1502, and 1504 as follows.</u> <u>HCD proposes to not adopt Section 1503.</u>

CHAPTER 15 ALTERNATE WATER SOURCES FOR NONPOTABLE APPLICATIONS

Intent

The provisions of this chapter are intended to:

- 1. Conserve <u>potable</u> water by facilitating greater reuse of laundry, shower, lavatory and similar sources of discharge, or by the use of alternate water sources, where available, for irrigation and/or indoor use.
- 2. Reduce the number of non-compliant gray water systems by making legal compliance easily achievable.
- 3. Provide guidance for avoiding potentially unhealthful conditions.
- 4. Provide an alternative way to relieve stress on a private sewage disposal system by diverting the graywater.

1501.0 General

1501.1 Applicability. (HCD 1) Except as otherwise provided for in this chapter, the provisions of this code shall be applicable to alternate water source system installation. (BSC & HCD 1) The provisions of this chapter shall apply to the construction, alteration, discharge, use and repair of alternate water source systems for nonpotable applications.

1501.1.1 Allowable Use of Alternate Water. Where approved or required by the Authority Having Jurisdiction, alternate water sources [reclaimed (recycled) water, gray water, and on-site treated nonpotable water] shall be permitted to be used in lieu of potable water for the applications identified in this chapter.

1501.1.1.1 Outdoor Recycled Water Supply Systems. (BSC-CG & HCD 1) All newly constructed residential and nonresidential developments, where disinfected tertiary recycled water is available from a municipal source to a construction site, shall be provided with both a potable water supply system and a recycled water supply system. The recycled water supply system shall allow the use of reclaimed (recycled) water for aboveground and subsurface irrigation to all landscape irrigation systems.

For the purposes of Section 1501.1.1.1, when a recycled water supply pipe is located within 300 feet from a construction site boundary, it shall be considered that reclaimed (recycled) water is available from a municipal source

Exceptions:

- (1) Service areas in which the only reclaimed (recycled) water is used for potable purposes, or in which net nonpotable deliveries are anticipated to remain level or decrease as a result of the potable reuse project.
- (2) Where access to disinfected tertiary recycled water is not feasible and/or cost-efficient, as determined by the Authority Having Jurisdiction in consultation with the recycled water purveyor.

Note: A city, county, or city and county, in consultation with the recycled water purveyor, may further reduce the area for the mandate to install recycled water supply systems if the recycled water purveyor is unable to accommodate new services or unable to provide uninterruptable service.

- (3) A potable water supply system is not required for landscape irrigation if the landscape irrigation system is supplied with recycled water at the time of final inspection.
- (4) Potable water may be used with the recycled water supply system on a temporary basis, as allowed by the Authority Having Jurisdiction in consultation with the recycled water purveyor.

1501.1.1.2. Technical Requirements for Outdoor Recycled Water Supply Systems. Recycled water supply systems for outdoor applications shall meet the requirements of this code, and the California Code of Regulations, Title 17, Division 1, Chapter 5, Subchapter 1; Title 22, Division 4, Chapter 3; and Title 23, Division 2, Chapter 2.7, as applicable.

1501.2 System Design. (HCD 1) Alternate water source systems complying with this chapter shall be designed by a person who demonstrates competency to design the alternate water source system as required by the Enforcing Agency. The Enforcing Agency may also require plans and specifications to be prepared by a licensed design professional for Complex Systems. Components, piping, and fittings used in any alternate water source system shall be listed.

<u>Irrigation design plans shall meet the requirements of the California Code of Regulations, Title 23, Division 2, Chapter 2.7, Model Water Efficient Landscape Ordinance.</u>

1501.3 Permit. It shall be unlawful for a person to construct, install, alter, or cause to be constructed, installed, or altered an alternate water source system in a building or on a premise without first obtaining a permit to do such work from the Authority Having Jurisdiction. Prior to commencing the issuance of permits for indoor gray water systems pursuant to state requirements relating to gray water, a city, county, city and county or other local agency shall seek consultation with the local public health department to ensure that local public health concerns are addressed in local standards or ordinances, or in issuing permits. See California Water Code Section 14877.3.

No changes or connections shall be made to either the alternate water source system or the potable water system within a site containing an alternate water source system without approval by the Authority Having Jurisdiction.

Exception: (HCD 1) A construction permit shall not be required for a clothes washer system meeting the requirements of Section 1502.1.1.

- **1501.5 Maintenance and Inspection.** Alternate water source systems and components shall be inspected and maintained in accordance with *the manufacturer's recommendations and/or as required by the Enforcing Agency Authority Having Jurisdiction.*
- **1501.6 Operation and Maintenance Manual**. An operation and maintenance manual for gray water, and on-site treated <u>nonpotable</u> water, <u>and recycled water</u> systems required to have a permit in accordance with Section<u>s</u> 1501.3, <u>1503.2 and 1504.2</u> shall be supplied to the building owner by the system designer *or installer*. The operating and maintenance manual shall include the following:
- (1) Diagram(s) of the entire system and the location of system components.
- (2) Instructions on operating and maintaining the system.
- (3) Instructions on maintaining the required water quality for on-site treated nonpotable water systems.
- (4) Details on startup, shutdown, and deactivating the system for maintenance, repair, or other purposes.
- (5) Applicable testing, inspection, and maintenance frequencies in accordance with Section 1501.5.
- (6) A method of contacting the installer and/or manufacturer(s).
- (7) Directions to the owner or occupant that the manual shall remain with the building throughout the life cycle of the structure.
- **1501.7 Minimum Water Quality Requirements.** The minimum water quality for alternate water source systems shall meet the applicable water quality requirements for the intended application as determined by the Authority Having Jurisdiction. In the absence of water quality requirements for on-site treated nonpotable graywater systems, the requirements of NSF 350 shall apply. Water quality requirements for on-site treated nonpotable graywater shall comply with Section 1504.10.2. Recycled water shall comply with the water quality requirements of Section 1503.14.

Exception: Water treatment is not required for gray water used *in a disposal field or* for subsurface *or subsoil* irrigation.

1501.10 Signage. Signage for on-site treated nonpotable gray water shall comply with Sections 1501.10.1 and 1501.10.2. Signage for reclaimed (recycled) water shall comply with Section 1503.12.

1501.10.1 Commercial, Industrial, Institutional, and Residential Restroom Signs. A sign shall be installed in restrooms in commercial, industrial, <u>and</u> institutional occupancies, and <u>shall also be installed</u> in residential common use areas <u>restrooms</u> using reclaimed (recycled) water and on-site treated <u>nonpotable gray</u> water for water closets, urinals, or both. <u>Signs shall comply with all applicable requirements of the California Building Code.</u> Each sign shall contain the following text:

1501.10.42 Equipment Room Signs. Each room containing reclaimed (recycled) and on-site treated <u>nonpotable</u> gray water equipment shall have a sign posted in a location that is visible to anyone working on or near nonpotable gray water equipment with the following wording in 1 inch (25.4 mm) letters:
CAUTION: <u>ON-SITE TREATED</u> NONPOTABLE <u>GRAY WATER</u> **, DO NOT DRINK. DO NOT CONNECT TO DRINKING WATER SYSTEM. NOTICE: CONTACT BUILDING MANAGEMENT BEFORE PERFORMING ANY WORK ON THIS WATER SYSTEM.
** Shall indicate RECLAIMED (RECYCLED) WATER or ON-SITE TREATED GRAY WATER accordingly.

TO CONSERVE WATER, THIS BUILDING USES *_____* ON-SITE TREATED NONPOTABLE GRAY

1501.11 Inspection and Testing. Alternate water source systems shall be inspected and tested in accordance with Section 1501.11.1 and Section 1501.11.2 *and/or as required by the Authority Having Jurisdiction*.

1501.11.1 Supply System Inspection and Test. (No change to text)

WATER TO FLUSH TOILETS AND URINALS.

1501.11.2 Cross-Connection Inspection and Testing. An initial inspection and test shall be performed on both the potable and alternate water source systems. The potable and alternate water source system shall be isolated from each other and independently inspected and tested to ensure there is no cross-connection in accordance with Section 1501.11.2.1 through Section <u>1501.11.2.4</u> <u>1501.11.2.3</u>.

1501.11.2.1 Visual System Inspection. (No change to text)

1501.11.2.2 Cross-Connection Test. The procedure for determining cross-connection shall be followed by the applicant *A cross-connection test shall be performed* in the presence of the Authority Having Jurisdiction and <u>or</u> other authorities having jurisdiction to determine whether a cross connection has occurred as follows:

- (1) The potable water system shall be activated and pressurized. The alternate water source system shall be shut down, depressurized, and drained.
- (2) The potable water system shall remain pressurized for a minimum period of time specified by the Authority Having Jurisdiction while the alternate water source system is empty. The minimum period the alternate water source system is to remain depressurized shall be determined on a case-by-case basis, taking into account the size and complexity of the potable and the alternate water source distribution systems, but in no case shall that period be less than 1 hour.
- (3) The drain on the alternate water source system shall be checked for flow during the test, and <u>all</u> fixtures, potable and alternate water source, shall be tested and inspected for flow. Flow from an alternate water source system outlet indicates a cross-connection. No flow from a potable water outlet shall indicate that it is connected to the alternate water source system.
- (4) The potable water system shall then be depressurized and drained.
- (5) The alternate water source system shall then be activated and pressurized.

When alternate water source is not available for the initial test, a temporary connection to a potable water supply shall be required. At the conclusion of the test, the temporary connection to the potable water supply shall be disconnected.

- (6) The alternate water source system shall remain pressurized for a minimum period of time specified by the Authority Having Jurisdiction while the potable water system is empty. The minimum period the potable water system is to remain depressurized shall be determined on a case-by-case basis, but in no case shall that period be less than 1 hour.
- (7) Fixtures, potable and alternate water source, shall be tested and inspected for flow. Flow from a potable water system outlet indicates a cross-connection. No flow from an alternate water source outlet will indicate that it is connected to the potable water system.
- (8) The drain on the potable water system shall be checked for flow during the test and at the end test.

(9) Where there is no flow detected in the fixtures which would indicate a cross-connection, the potable water system shall be repressurized.

1501.11.2.3 Discovery of Cross-Connection. In the event that a cross-connection is discovered, the following procedure, in the presence of the Authority Having Jurisdiction, shall be activated immediately:

- (1) Notify the Authority Having Jurisdiction of the cross connection.
- (1) (2) The alternate water source piping to the building <u>and its premises</u> shall be shut down at the meter, and the alternate water source riser shall be drained.
- (2) (3) Potable water piping to the building and its premises shall be shut down at the meter.
- (3) (4) The cross-connection shall be uncovered and disconnected.
- (4) (5) The building <u>and its premises</u> shall be retested in accordance with Section 1501.11.2.1 and Section 1501.11.2.2.
- (5) (6) The potable water system shall be chlorinated with 50 parts-per-million (ppm) chlorine for 24 hours.
- (6) (7) The potable water system shall be flushed after 24 hours, and a standard bacteriological test shall be performed. Where test results are acceptable, the potable water system shall be permitted to be recharged.

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1501.15 Hose Bibbs for Single-Family Dwellings. (HCD 1) Hose bibbs shall not be allowed on reclaimed (recycled) water piping systems for single-family dwelling units.

1502.0 Gray Water Systems.

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1502.3 Connections to Potable and Reclaimed (Recycled) Water Systems. Gray water systems shall have no <u>direct unprotected</u> connection to a potable water supply, on-site treated nonpotable water supply, or reclaimed (recycled) water <u>supply</u> systems.

Exceptions:

- 1. Potable <u>water</u>, on-site treated nonpotable <u>water</u>, reclaimed (recycled) water, or rainwater is permitted to be used as makeup water for a non-pressurized storage tank provided the connection is protected by an airgap, reduced-pressure principle backflow preventer, or other physical device which prevents backflow in accordance with this code.
- 2. A potable water supply may be connected temporarily for initial testing of the untreated graywater system as required in Section 1501.11.2.2.

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1504.0 On-Site Treated Nonpotable Gray Water Systems.

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1504.2 Plumbing Plan Submission. No permit for an on-site treated nonpotable *gray* water system shall be issued until complete plumbing plans, with data satisfactory to the Authority Having Jurisdiction, have been submitted and approved.

Prior to commencing the issuance of permits for indoor gray water systems pursuant to state requirements relating to graywater, a city, county, city and county or other local agency shall seek consultation with the local public health department to ensure that local public health concerns are addressed in local standards or ordinances, or in issuing permits. See California Water Code Section 14877.3.

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1504.4 Connections to Potable or Reclaimed (Recycled) Water Systems. On-site treated nonpotable *gray* water systems shall have no <u>direct unprotected</u> connection to a potable water supply or reclaimed (recycled) water <u>supply</u> source system.

Exceptions:

- 1. Potable or reclaimed (recycled) water is permitted to be used as makeup water for a non-pressurized storage tank provided the makeup water supply is protected by an air gap, reduced-pressure principle backflow preventer, or other physical device which prevents backflow in accordance with this code.
- 2. A potable water supply may be connected temporarily for initial testing of the on-site treated nonpotable gray water system as required in Section 1501.11.2.2.

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1504.10.2 Minimum Water Quality. On-site treated nonpotable *gray* water supplied to toilets or urinals or for other uses in which it is sprayed or exposed shall be disinfected. Acceptable disinfection methods shall include chlorination, ultraviolet sterilization, ozone, or other methods as approved by the Authority Having Jurisdiction. The minimum water quality for on-site treated nonpotable *gray* water systems shall meet the applicable water quality requirements for the intended applications as determined by the public health Authority Having Jurisdiction. *In the absence of local water quality requirements for on-site treated nonpotable gray water, Section 1501.7 the requirements of NSF/ANSI 350 shall apply.*

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NOTE:

Authority Cited: Health and Safety Code Sections 17040, 17050, 17921, 17921.5, 17921.10, 17922, 17922.6, 17922.12, 17927, 17928, 17959.6, 18300, 18552, 18554, 18620, 18630, 18640, 18670, 18690, 18691, 18865, 18871.3, 18873.4, 18873.1, 18873.2, 18873.3, 18873.4, 18873.5, 18938.3, 18944.11, and 19990; and Government Code Section 12955.1, and Water Code Section 14877.3, 13552.2, 13552.4, 13553.

Reference: Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.